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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/709,905

06/04/2004

David C. Ahlgren

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10/18/2005

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EXAMINER

HU, SHOUXIANG

ART UNIT

PAPER NUMBER

2811

DATE MAILED: 10/18/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No. 10/709,905	Applicant(s) AHLGREN ET AL.	
	Examiner Shouxiang Hu	Art Unit 2811	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 01 August 2005.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-18 is/are pending in the application.
- 4a) Of the above claim(s) 8-12, 16 and 17 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-7, 13-15 and 18 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date <u>6/4/2004</u> . | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Election/Restrictions

1. This application contains claims 1-18 further directed to the following patentably distinct species of the claimed invention:

Species 1, embodiment of Figs. 2-8.

Species 2, embodiment of Fig. 9.

Applicant is required under 35 U.S.C. 121 to elect a single disclosed species for prosecution on the merits to which the claims shall be restricted if no generic claim is finally held to be allowable. Currently, none is generic.

Applicant is advised that a reply to this requirement must include an identification of the species that is elected consonant with this requirement, and a listing of all claims readable thereon, including any claims subsequently added. An argument that a claim is allowable or that all claims are generic is considered nonresponsive unless accompanied by an election.

Upon the allowance of **any of the independent claims**, applicant will be entitled to consideration of claims to additional species which are written in dependent form or otherwise include all the limitations of an allowed generic claim as provided by 37 CFR 1.141. If claims are added after the election, applicant must indicate which are readable upon the elected species. MPEP § 809.02(a).

Should applicant traverse on the ground that the species are not patentably distinct, applicant should submit evidence or identify such evidence now of record

showing the species to be obvious variants or clearly admit on the record that this is the case. In either instance, if the examiner finds one of the inventions unpatentable over the prior art, the evidence or admission may be used in a rejection under 35 U.S.C. 103(a) of the other invention.

Applicant is advised that the reply to this requirement to be complete must include an election of the invention to be examined even though the requirement be traversed (37 CFR 1.143).

Applicant is reminded that upon the cancellation of claims to a non-elected invention, the inventorship must be amended in compliance with 37 CFR 1.48(b) if one or more of the currently named inventors is no longer an inventor of at least one claim remaining in the application. Any amendment of inventorship must be accompanied by a petition under 37 CFR 1.48(b) and by the fee required under 37 CFR 1.17(I).

2. During a telephone conversation with Andrew M. Calderon on September 28, 2005, a provisional election was made without traverse to prosecute the invention of Species 1. Affirmation of this election must be made by applicant in replying to this Office action. Claims 1-7, 13-15 and 18 are found readable on the elected species. Claims 8-12, 16 and 17 are withdrawn from further consideration by the examiner, 37 CFR 1.142(b), as being unreadable on the elected species.

3. Accordingly, claims 1-18 are pending in this application; and claims 1-7, 13-15 and 18 remain active in this office action.

Claim Objections

4. Claims 2, 13-15 and 18 are objected to because of the following informalities and/or defects:

Claim 2 recites the subject matters that the base region is deposited on the emitter region and that the collector is deposited on the base region. However, from the process point of view, and given that the word of "deposited" in the art commonly means "formed on", it is the collector in the instant invention that is first formed, then the base region on the collector, and then the emitter on the base region.

Claims 2 and 13 each recite the term of "about", but fail to clarify the relevant positional relationships as the term of "about" can be interpreted in various but inaccurate ways.

Appropriate correction is required.

Claim Rejections - 35 USC § 103

5. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 1-7, 13-15 and 18, as being best understood in view of the claim objections above, are rejected under 35 U.S.C. 103(a) as being unpatentable over Freeman (Freeman et al., US 6,414,371) in view of Endo (Endo et al., US 4,870,475; of record) and/or Oda (Oda et al., US 6,482,710).

Freeman discloses a device (Figs. 1-6 and/or 7), comprising: an active region including a collector region (the remaining portion of 12); an emitter region (16); a base region (14); a passivation layer (20); an insulator layer (62 and/or 12' in Fig. 6, including a portion that is surrounding the collector region); a conductive pathway (64 for collector in Fig. 6); another conductive pathway (to the base region); and, a collector metal contacts (64 and/or 64' for the collector and base, respectively, in Fig. 7).

Although Freeman does not expressly disclose that insulator layer can be formed of an oxide and/or remain in the device, one of ordinary skill in the art would readily recognize that such an interlayer insulator layer can be commonly formed of an oxide and/or remain in the device for providing desired inner electrical insulation and/or desired mechanical strength in the device, while still applicable at adequately high frequency, as readily evidenced in the prior art such as Endo (see the oxide layer (202 and/or 411) in Fig. 8d) and/or Oda (see the oxide layer 21 in the cover page figure).

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to incorporate the interlayer oxide layer of Endo and/or Oda into the device of Freeman, so that a device with desired inner electrical insulation and/or desired mechanical strength would be obtained.

Regarding claim 6, it is art known that a silicide layer can be desirably formed on the surface of a semiconductor region for better electrical contact thereto, as further evidenced in Freeman (see the silicide layer 11 in Fig. 1).

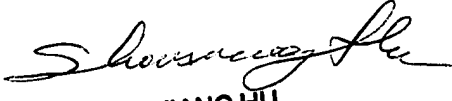
Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Shouxiang Hu whose telephone number is 571-272-1654. The examiner can normally be reached on Monday through Thursday, 7:30 AM to 6:00 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Eddie C. Lee can be reached on 571-272-1732. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

SH
October 12, 2005


SHOUXIANG HU
PRIMARY EXAMINER